

CLMPTO

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Claim 1. (original): A flow sensor device to obtain flow characteristics of a fluid flow system, the device comprising:

a sensor assembly including:

**a body defining a first fluid flow passage having an inlet and an outlet,
a flow restricting element located along the first fluid flow passage**

between the inlet and the outlet,

**an upstream fluid pressure sensor to sense an upstream fluid pressure at
an upstream location in the first fluid flow passage between the inlet and the flow
restricting element,**

**a downstream fluid pressure sensor to sense a downstream fluid
pressure at a downstream location in the first fluid flow passage between the flow
restricting element and the outlet,**

**an upstream signal contact connected to the upstream fluid pressure
sensor, and**

**a downstream signal contact connected to the downstream fluid
pressure sensor, and**

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a housing including an upstream portion and a downstream portion, the upstream portion defining an upstream port in fluid communication with the inlet of the sensor assembly, the downstream portion defining a downstream port in fluid communication with the outlet of the sensor assembly, the housing further defining a probe access port configured to provide access of a probe to at least one of the upstream signal contact and downstream signal contact.

CLAIMS 2 – 16 (CANCELLED)

Claim 17 (original): A fluid sensor system, comprising:

- a probe to receive signals representative of a fluid flow characteristic;
- a processor to process signals from the probe into flow characteristic data; and

a device to obtain flow characteristic measurements of a fluid flow system, the device including:

- a sensor assembly including:

- a body defining a first fluid flow passage having an inlet and an outlet,

- a flow restricting element located along the first fluid flow passage between the inlet and the outlet,

- an upstream fluid pressure sensor to sense an upstream fluid pressure at an upstream location in the first fluid flow passage between the inlet and the flow restricting element,

- a downstream fluid pressure sensor to sense a downstream fluid pressure at a downstream location in the first fluid flow passage between the flow restricting element and the outlet,

- an upstream signal contact connected to the upstream fluid pressure sensor, and

- a downstream signal contact connected to the downstream fluid pressure sensor; and

- a housing including an upstream portion and a downstream portion, the

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upstream portion defining an upstream port in fluid communication with the inlet of the sensor assembly, the downstream portion defining
a downstream port in fluid communication with the outlet of the sensor assembly, the housing further defining a probe access port configured to provide access of the probe to at least one of the upstream signal contact and downstream signal contact.

CLAIMS 18 – 28 (CANCELLED)

Claim 29 (original): A method of obtaining flow characteristics of a fluid flow system, the method comprising the steps of:

providing a device to obtain flow rate measurements, the device comprising:

a sensor assembly including:

a body defining a first fluid flow passage having an inlet and an outlet,

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a flow restricting element located along the first fluid flow passage between the inlet and the outlet,

an upstream fluid pressure sensor to sense an upstream fluid pressure at an upstream location in the first fluid flow passage between the inlet and the flow restricting element,

a downstream fluid pressure sensor to sense a downstream fluid pressure at a downstream location in the first fluid flow passage between the flow restricting element and the outlet,

an upstream signal contact connected to the upstream fluid pressure sensor, and

a downstream signal contact connected to the downstream fluid pressure sensor, and

a housing including an upstream portion and a downstream portion, the upstream portion defining an upstream port in fluid communication with the inlet of the sensor assembly, the downstream portion defining a downstream port in fluid communication with the outlet of the sensor assembly, the housing further defining a probe access port configured to provide access of a probe to at least one of the upstream signal contact and downstream signal contact;

directing a fluid flow through the first fluid flow passage;

obtaining a signal corresponding to the fluid pressure in the first fluid flow passage at the locations of the upstream fluid pressure sensor and the downstream fluid pressure sensor; and

determining a flow characteristic based upon the signal.

CLAIMS 30 – 39 (CANCELLED)

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Claim 40 (new) The device of claim 1, wherein the housing defines a second fluid flow passage there through arranged for fluid communication in parallel with the first fluid flow passage between the upstream port and the downstream port, and further comprising a valve for selective flow through the second fluid flow passage, the valve including at least a portion of the second fluid flow passage and being defined by a compressible wall member formed from an elastomeric material, wherein the second fluid flow passage has an ellipsoidal shape whose longer dimension is aligned with the wall member.